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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,246	09/22/2003	Kazunari Tonami	242243US2	9509

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EXAMINER
VO, QUANG N

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
06/06/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>13 May 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-42</u> is/are pending in the application.
    4a) Of the above claim(s) <u>6-20,26-30,32-34,36,38-40 and 42</u> is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-5,21-25,31,35,37 and 41</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/13/2008 has been entered.

Response to Amendment

With regard to claim 1, applicant argues that Fuchigami does not disclose a conversion unit that converts the RGB signal into a CMY signal based on preset conversion coefficients that will vary according to characteristics of the original color image.

In response: Fuchigami discloses a conversion unit that converts the RGB signal into a CMY signal based on preset conversion coefficients (e.g., the second feature amount calculation section 133b outputs a density value multiplied by a predetermined coefficient, figure 9, column 12, lines 35-38) that will vary according to characteristics of the original color image (e.g., with respect to a region around a pixel interest (characteristic of the original color image), the first feature amount calculation section 133a outputs a density variation amount as a feature amount, while the second feature amount calculation section 133b outputs a density value multiplied by a predetermined

coefficient. As result, different feature amount calculation results are obtained, figure 9,

column 12, lines 32-38).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 31, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated

by Fuchigami et al. (Fuchigami) (US 7,006,253).

With regard to claim 1, Fuchigami discloses an image processing apparatus (e.g., figure

9) comprising: an input unit (e.g., color scanner, figure 9) that acquires a RGB signal

corresponding to an original color image (e.g. the RGB image signals generated by this

color scanner, column 8, lines 6-8); a conversion unit that converts the RGB signal into

a CMY signal based on preset conversion coefficient (e.g., the second feature amount

calculation section 133b outputs a density value multiplied by a predetermined

coefficient, figure 9, column 12, lines 35-38) that will vary according to characteristics of

the original color image (e.g., with respect to a region around a pixel interest

(characteristic of the original color image), the first feature amount calculation section

133a outputs a density variation amount as a feature amount, while the second feature

amount calculation section 133b outputs a density value multiplied by a predetermined

coefficient. As result, different feature amount calculation results are obtained, figure 9,

column 12, lines 32-38); an extraction unit that extracts an image attribute from the

CMY signal (e.g., the first and second color determination sections (an extraction unit),

figure 9); and a processing unit that applies, based on the image attribute, an adaptive

image processing to the RGB signal (e.g., each section of the color printer first perform

processing with respect to the RGB image signals, and then RGB signals subjected to

the processing by each section are converted into CMY image signals, column 8, lines

16-46).

With regard to claim 2, Fuchigami discloses wherein the extraction unit calculates

an edge amount of the color image as the image attribute (column 1, lines 54-63).

With regard to claim 3, Fuchigami discloses wherein the extraction unit generates

an image area separating signal that is used to separate an image into a plurality of

areas as the image attribute (column 8, lines 16-23).

With regard to claim 4, Fuchigami discloses wherein the conversion unit further

changes the preset conversion coefficients for converting the RGB signal into the CMY

signal based on a type of the color image (column 8, lines 23-30; e.g., When a density

variation is sensed for the determination of a character or letter, the method used for

this determination should be changed (a conversion coefficient must change

accordingly) in accordance with the color of the background of the character or letter,

column 13, line 65 – column 14, line 6).

With regard to claim 5, Fuchigami discloses wherein the type of the color image

is any one of a print image, a photographic printing paper image, and a photocopy

image (e.g., a digital color copying machine that forms a duplicate image of color image, column 2, lines 64-67).

Referring to claim 31:

Claim 31 is the method claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 31 is rejected as set forth above for claim 1.

Referring to claim 37:

Claim 37 is a computer readable medium storing a computer program claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 37 is rejected as set forth above for claim 1.

Claims 21-25, 35, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchigami et al. (Fuchigami) (US 7,006,253) and in view of Fan et al. (Fan) (US 6,621,595).

With regard to claim 21, Fuchigami discloses an image processing apparatus (e.g., figure 9) comprising: an input unit (e.g., color scanner, figure 9) that acquires a RGB signal corresponding to an original color image (e.g. the RGB image signals generated by this color scanner, column 8, lines 6-8); a first conversion unit (e.g., second feature amount calculation section 133b, figure 9) that converts the RGB signal into a CMY signal based on preset coefficients (e.g., the second feature amount calculation section 133b outputs a density value multiplied by a predetermined coefficient, figure 9, column 12, lines 35-38) that will vary according to characteristic of

the original color image (e.g., with respect to a region around a pixel interest

(characteristic of the original color image) either the first feature amount calculation

section 133a or 133b applied, figure 9, column 12, lines 32-38); a first extraction unit

(e.g., the first and second color determination sections 135a, 135b (an extraction unit),

figure 9) that extracts a first image attribute from the CMY signal; a second conversion

unit that generates image signals required for determining whether an image to be

processed is character image or halftone image from the RGB signal (column 8, lines

16-26); a second extraction unit that extracts a second image attribute from the signal

generated by the second conversion unit (column 8, lines 26-30); and a processing unit

that applies, based on the first image attribute and the second image attribute, an

adaptive image processing to the RGB signal (e.g., each section of the color printer first

perform processing with respect to the RGB image signals, and then RGB signals

subjected to the processing by each section are converted into CMY image signals,

column 8, lines 16-48).

Fuchigami differs from claim 21, in that he does not explicitly teach generates a

signal including either of a luminance/chrominance difference signal and a

lightness/chromaticity signal from the RGB signal.

Fan discloses generating a signal including either of a luminance/chrominance

difference signal and a lightness/chromaticity signal from the RGB signal (detail 42,

figure 7, block 704).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to have modified Fuchigami to include generating a signal including

either of a luminance/chrominance difference signal and a lightness/chromaticity signal from the RGB signal as taught by Fan. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Fuchigami by the teaching of Fan to be used for image processing to perform a number of image enhancements for scanned document images. These image enhancements include text edge sharpening, text edge darkening, color fringe removal (column 3, lines 17-19).

With regard to claim 22, Fuchigami discloses wherein the first extraction unit calculates an edge amount of the color image as the first image attribute (column 8, lines 60-66), and the second extraction unit generates an image area separating signal that is used to separate an image into a plurality of areas as the second image attribute (column 8, lines 23-30).

With regard to claim 23, Fuchigami discloses wherein the first extraction unit calculates the edge amount from a C signal and an M signal of the CMY signal as the second image attribute (column 15, lines 21-29).

With regard to claim 24, Fuchigami discloses wherein the first conversion unit further changes the preset conversion coefficients for converting the RGB signal into the CMY signal based on a type of the color image (column 8, lines 23-30).

With regard to claim 25, Fuchigami discloses wherein the type of the color image is any one of a print image, a photographic printing paper image, and a photocopy image (e.g., a digital color copying machine that forms a duplicate image of color image, column 2, lines 64-67).

Referring to claim 35:

Claim 35 is the method claim corresponding to operation of the device in claim

21 with method steps corresponding directly to the function of device elements in claim

21. Therefore claim 35 is rejected as set forth above for claim 21.

Referring to claim 41:

Claim 41 is a computer readable medium storing a computer program claim

corresponding to operation of the device in claim 21 with method steps corresponding

directly to the function of device elements in claim 21. Therefore claim 41 is rejected as

set forth above for claim 21.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to QUANG N. VO whose telephone number is (571)270-

1121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang N. Vo/   /King Y. Poon/
Examiner, Art Unit 2625   Supervisory Patent Examiner, Art
                                                       Unit 2625